WE CLAIM

1. An apparatus comprising a catalytic converter, said apparatus comprising:

an oxygen rich engine-exhaust gas inlet;

a diesel fuel inlet; and

a reductive stage convert of NO_X connected to receive a mixture of NO_X from the engine-exhaust gas inlet and diesel fuel from the diesel fuel inlet, said convert comprising an alkali metal cation-exchanged faujasite-type zeolite catalyst that further serves to convert NO_X to gases that include N_2, CO_2, and H_2O.

2. The apparatus of claim 1 further comprising a plasma converter upstream of said catalyst capable of converting at least a portion of said NO_X to NO_2.

3. The apparatus of claim 1 wherein said zeolite comprises an X-zeolite or Y-zeolite.

4. The apparatus of claim 1 wherein said zeolite wherein said zeolite comprises a pore volume above about 0.20 ml/gram.

5. The apparatus of claim 1 wherein said zeolite comprises a pore volume above about 0.30 ml/gram.

6. The apparatus of claim 1 wherein said zeolite comprises a pore size greater than about 6.5 angstroms.

7. The apparatus of claim 1 wherein said zeolite comprises a silicon/aluminum ratio in the range of about 1 to about 3.

8. The apparatus of claim 1 wherein said zeolite comprises a silicon/aluminum ratio in the range of about 1 to about 3.

9. A vehicle with reduced NO_X engine exhaust emissions, comprising:

a fuel supply of diesel fuel;

an internal combustion engine operably connected to receive a major portion of said fuel supply of diesel fuel and to propel a vehicle, and having an oxygen-rich exhaust comprising NO_X;

a first reactor operably connected to receive pulsed inletted minor portions of said fuel supply of diesel fuel, said first reactor comprising a catalyst that further comprises an alkali metal cation-exchanged faujasite-type zeolite for NO_X reduction gas treatment and wherein said first reactor is further operably connected to receive said oxygen-rich exhaust comprising NO_X, and operably connected to output therefrom a product comprising N_2 that has been converted from said NO_X and noncombusted hydrocarbons from said diesel fuel, and

a second reactor for collection and combustion of said noncombusted hydrocarbons connected to receive said product of the first reactor with said NO_X and connected to receive said noncombusted hydrocarbons, and operably connected to output a second exhaust with reduced NO_X emissions.

10. The vehicle of claim 9 wherein said zeolite comprises an X-zeolite or Y-zeolite.

11. The vehicle of claim 9 wherein said first reactor is adapted to receive said minor portion of said fuel supply in an amount less than 10% of said fuel supply of a diesel fuel requirement that initially produces said diesel engine exhaust prior to said injecting.

12. The vehicle of claim 11 wherein said minor portion of said fuel supply of diesel fuel comprises less than 5% of said fuel supply of diesel fuel.

13. The vehicle of claim 9 further comprising a plasma converter upstream of said catalyst capable of converting at least a portion of said NO_X to NO_2.

14. The vehicle of claim 9 wherein said zeolite comprises a pore volume above about 0.20 ml/gram.

15. The vehicle of claim 9 wherein said zeolite comprises a pore volume above about 0.30 ml/gram.

16. The vehicle of claim 9 wherein said zeolite comprises a pore size greater than about 6.5 angstroms.

17. The vehicle of claim 9 wherein said zeolite comprises a silicon/aluminum ratio in the range of about 1 to about 3.

18. The apparatus of claim 9 wherein said zeolite comprises a silicon/aluminum ratio in the range of about 1 to about 3.